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EXAMINER	
GUPTA, PARUL H	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/789,309	KOMMA, YOSHIAKI	
	Examiner	Art Unit	
	PARUL GUPTA	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 12-35* is/are rejected.

7)☒ Claim(s) *11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-35 are pending for examination as interpreted by the examiner. The amendment and arguments filed on 12/28/07 were considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 4-5, and 7 are rejected under 35 U.S.C. 103(a) as being anticipated by Tanaka et al., US Patent 5,513,164 in view of Yoo et al., US Patent 6,285,646.

Regarding claim 1, Tanaka et al. teaches in figure 24 and column 21, lines 10-24 an optical head device comprising: a blue laser light source (51a) for emitting a blue light beam; an infrared laser light source (51b) for emitting an infrared light beam; an objective lens (55) for receiving light beams emitted from the blue laser light source (51a) and the infrared laser light source (51b) and focusing them into a spot on a recording surface of an optical disk (56); and an optical detector (59a) in which is formed an optical detector portion for receiving a light beam reflected by the recording surface of the optical disk and outputting an electric signal that corresponds to a light amount of the light beam (column 17, lines 1-25); wherein, due to the objective lens (55), the light beam emitted by the blue laser light source (51a) is focused into a spot on the recording surface of an optical disk (56) after passing through a substrate of approximately 0.1 mm or less thickness (column 32, lines 49-61 explain the case where

the substrate has a thickness of 0.6mm, which is approximately 0.1mm); wherein a relay lens (52) is disposed between the infrared laser light source (51b) and the objective lens (55); and wherein the infrared light beam is emitted from the infrared laser light source (51b) and then, as the infrared light beam diverges once again, it is incident on the objective lens (55), and the objective lens focuses the infrared light beam into a spot on the recording surface of an optical disk (56), after passing through an approximately 1.2 mm substrate (column 28, lines 31-60). Tanaka et al. does not specifically but Yoo et al. teaches that the light source is converted by the relay lens (14) so that the infrared light beam exiting the relay lens converges to have a smaller diameter than the infrared light beam incident on the relay lens before diverging again. Yoo et al. teaches as conventional in figure 1 the concept of the beam being converged and diverged before the light beam hits the objective lens (7). It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the CD system in Tanaka et al. with the CD system having the relay lens. The motivation would be so aberration correction can be easily performed, or to improve aberration correction.

Regarding claim 4, Tanaka et al. further teaches in figure 24 and explains in column 17, lines 1-11 the optical head device according to claim 1, further comprising: a dichroic element (58), for separating the infrared light beam and shorter wavelength light beams, between the relay lens (52) and the objective lens (55).

Regarding claim 5, Tanaka et al. further teaches in figure 24 the optical head device according to claim 4, wherein a dichroic film (layer of element 58) for separating the infrared light beam and shorter wavelength light beams is formed on a surface of a

parallel flat plate provided in the dichroic element (58) disposed between the relay lens (52) and the objective lens (55).

Regarding claim 7, Tanaka et al. further teaches in figure 24 the optical head device according to claim 4, wherein the dichroic element (58) is disposed at a position where the blue light beam (from 51a) is a substantially parallel light beam (figure shows that the reflecting layer of element 58 is substantially parallel to the light from element 51a).

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. in view of Yoo et al. in view of Hagimori, US Patent 6,515,805.

Tanaka et al. in view of Yoo et al. teaches the optical head device according to claim 1, but fails to teach the further limitations of claim 2. Hagimori teaches from column 9, line 53 to column 10, line 10 the device wherein the relay lens (Gr1) adds spherical aberration at its outer circumference portion away from the optical axis (causes “over-side spherical aberration” as given in column 10, line 1), and due to the spherical aberration, corrects off-axial aberration (column 9, line 64). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of correcting off-axial aberration using a lens that introduces spherical aberration as taught by Hagimori into the system of Tanaka et al. in view of Yoo et al.. The motivation would be to realize a zoom lens system that offers satisfactory aberration correction performance despite being compact (column 10, lines 8-10 of Hagimori).

4. Claims 3, 16, and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. in view of Yoo et al. in view of Ashinuma et al., US Patent 5,289,451.

Tanaka et al. in view of Yoo et al. teaches the limitations of claim 1, but fails to teach the further limitations of claims 3, 16 and 18-22.

Regarding claim 3, Ashinuma et al. teaches in figure 11 the optical head device according to claim 1, wherein a distance between the relay lens (39) and a point of convergence on a side opposite a point of emission of the infrared light beam (towards element 40) is shorter than a distance between the relay lens (39) and the point of emission (from element 31) of the infrared light beam.

Regarding claim 16, Ashinuma et al. teaches an optical information device (figure 11) comprising: an optical head device (31); a motor (41) for rotating an optical disk; and an electric circuit (50) for receiving signals obtained from the optical head device, and based on the signals, for controlling and driving the motor and the objective lens and the laser light sources of the optical head device (column 7, lines 42-48).

Regarding claim 18, Ashinuma et al. teaches a computer comprising: an optical information device (figure 11); an input device or an input element (element 2 of figure 1) for inputting information (done through insertion of disk); a computing device for carrying out computing based on information input from the input device (reading disk) or information reproduced from the optical information device; and an output device or an output element for displaying or outputting information input from the input device, information reproduced from the optical information device (recording disk), or the

results of the computation performed by the computing device; wherein the optical information device is the optical information device according to claim 16.

Regarding claims 19, 20, and 21, Ashinuma et al. teaches an optical disk player (disk reader is the same as an “optical information reproducing apparatus” as given in column 7, line 2), a car navigation system (The “optical information recording/reproducing apparatus” as given in column 7, line 2 can be used for any purpose. Thus, It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of placing it in a car navigation system in order to provide more uses for the device to make it more versatile.), and an optical disk recorder (disk recorder is the same as an “optical information recording apparatus” as given in column 7, line 2) comprising: an optical information device (figure 11), and a decoder (44) for converting into an image information signals obtained from the optical information device from information to be converted into an image (“photo signal” of column 7, lines 15-16); wherein the optical information device is the optical information device according to claim 16 where the optical disk recorder comprises an encoder (45) for converting into information image information from an image to be converted into information to be recorded by the optical information device (electrical signal of device 40).

Regarding claim 22, Ashinuma et al. teaches an optical disk server comprising: an optical information device (figure 11), and an input/output element for exchanging information with the outside (signals sent from device to rest of apparatus); wherein the optical information device is the optical information device according to claim 16.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of the given device used to control the motor and convert data as taught by Ashinuma et al. into the system of Tanaka et al. in view of Yoo et al.. The motivation would be to provide an optical information recording/ reproducing apparatus which can stably record, reproduce, and erase information for different sizes of recording media (column 2, lines 62-64 of Ashinuma et al.).

5. Claim 6 is rejected under 35 U.S.C. 102(b) as being unpatentable over Tanaka et al. in view of Yoo et al. in view of Umeda et al., US Patent 4, 862,196.

Regarding claim 6, Tanaka et al. in view of Yoo et al. teaches the optical head device according to claim 5. Tanaka et al. in view of Yoo et al. does not but Umeda et al. teaches the device wherein a thickness of the parallel flat plate ("dichroic mirror" of column 16, lines 10-12) is 1 mm or less. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of a thin dichroic mirror as taught by Umeda et al. into the system of Tanaka et al. in view of Yoo et al. Umeda et al. teaches in column 16, lines 10-12 that dichroic mirrors of this dimension are conventional, most likely because they are so expensive.

6. Claims 8-10, 12, 23, 26, 27, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. in view of Yoo et al. in view of Jeong, US Patent 6,992,967.

Regarding claim 23, Tanaka et al. in view of Yoo et al. teaches in figure 24 the optical head device according to claim 1. Tanaka et al. in view of Yoo et al. does not but Jeong teaches the device wherein the objective lens is a compound objective lens

composed of a hologram (“birefringence medium” of column 5, lines 59-60) and a refractive lens (“isotrophy medium” of column 6, lines 15-18); wherein the hologram comprises a grating having a sawtooth cross-sectional shape (figure 7) formed on at least its inner circumferential portion; wherein a depth h1 of the sawtooth cross-sectional shape is a depth that generates a positive second-order diffraction light by providing a light path difference of approximately two wavelengths (efficient as shown in figures 3 and 4 and explained in column 2, lines 28-34) with respect to a first light beam whose wavelength $\lambda 1$ is 390 nm to 415 nm (column 6, lines 10-27), and is a depth that generates a positive first-order diffraction light with respect to a second light beam whose wavelength $\lambda 2$ is 630 nm to 680 nm (column 6, lines 10-27).

Regarding claim 8, Tanaka et al. in view of Yoo et al. in view of Jeong teaches the optical head device according to claim 23. Jeong further teaches the device wherein by giving the hologram a convex lens form so that if the first light beam is focused passing through a substrate whose thickness (t1) is 0.1 mm or less (“HD disk” as explained in column 1, lines 26-43) it is subjected to a convex lens effect by the hologram (“curved line” of column 6, lines 48-58).

Regarding claim 9, Jeong teaches in figure 9 the optical head device according to claim 8, wherein the positive second-order diffraction light of the first light beam is focused after passing through a substrate whose substrate thickness is t1 (0.1mm of a “HD disk” as explained in column 1, lines 26-43), and the positive first-order diffraction light of the second light beam that passes through the inner circumferential portion of the hologram (shown in figure 9) is focused after passing through a substrate whose

substrate thickness is t2 (0.6mm of a “DVD disk” as explained in column 1, lines 26-43), wherein t1<t2.

Regarding claim 10, Jeong teaches in column 5, lines 22-29 the optical head device according to claim 9, wherein positive first-order diffraction light of the second light beam that passes through an outer circumferential portion of the hologram has aberration when it has passed through a substrate whose substrate thickness is t2, and is not focused.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of the given grating of the hologram as taught by Jeong into the system of Tanaka et al. in view of Yoo et al.. The motivation would be to maximize efficiency in multiple types of disks (column 2, lines 36-42 of Jeong).

Regarding claim 12, Tanaka et al. in view of Yoo et al. in view of Jeong teaches the optical head device according to claim 9. Tanaka et al. in view of Yoo et al. further teaches the device wherein when focusing the second light beam (51b) onto the recording surface of an optical disk (56) after passing through a substrate whose substrate thickness is t2, a collimating lens (52) for turning the second light beam that is emitted from the second light source into substantially parallel light is moved toward the second light source so that the second light beam is turned into slightly diverged light and made incident on the objective lens (55), moving the focal position on the optical disk side away from the compound objective lens (column 21, lines 25-37 explain that

the light source can be moved with respect to the collimating lens to match the spot of the beam).

Regarding claim 26. Tanaka et al. in view of Yoo et al. in view of Jeong teaches the device according to claim 23. Tanaka et al. in view of Yoo et al. further teaches in figure 24 and explains in column 17, lines 1-11 the optical head device, further comprising: a dichroic element (58), for separating the infrared light beam and shorter wavelength light beams, between the relay lens (52) and the objective lens (55).

Regarding claim 27, Tanaka et al. in view of Yoo et al. teaches in figure 24 the optical head device, wherein a dichroic film (layer of element 58) for separating the infrared light beam and shorter wavelength light beams is formed on a surface of a parallel flat plate provided in the dichroic element (58) disposed between the relay lens (52) and the objective lens (55).

Regarding claim 29, Tanaka et al. in view of Yoo et al. teaches in figure 24 the optical head device, wherein the dichroic element (58) is disposed at a position where the blue light beam (from 51a) is a substantially parallel light beam (figure shows that the reflecting layer of element 58 is substantially parallel to the light from element 51a).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of the given dichroic element and its positioning as taught by Tanaka et al. in view of Yoo et al. into the system of Tanaka et al. in view of Yoo et al. in view of Jeong. The motivation would be to use one optical head with two light sources without returning reflected light beams (column 5, lines 34-43).

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. in view of Yoo et al. in view of Jeong, further in view of Hendriks et al., US Patent Publication 2003/0151996.

Tanaka et al. in view of Yoo et al. in view of Jeong teaches the limitations of claim 9, but fails to teach the further limitations of claim 13.

Hendriks et al. teaches the optical head device further comprising: a phase step in which is formed a step difference that causes a light path length difference of five times the wavelength with respect to the blue light beam (see in particular figure 4, paragraphs 0039-0055) and three times the wavelength with respect to the second light beam. However, Hendriks et al. does not explicitly teach the optical path length difference being five times the wavelength of the first light and three times the wavelength of the second light. However, Hendriks et al. does additionally teach that in order for the phase structure to not have any effect of the light traversing the phase structure, the phase change should be equal to 2π, or an integer multiple of 2π (see paragraphs 0041-0055), such as 5*2π. This in turn yields, via Equation 1 (see paragraph 0041), the height of the step being an integral multiple of the step height derived in Equation 2, and hence an integral multiple of the wavelength, i.e. 5*2π phase change arises from the 5λ change. Thus, It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of having the optical path length difference be three or five times the wavelength as taught by Hendriks et al. into the system of Tanaka et al. in view of Yoo et al. in view of Jeong. The motivation would be to simplify the construction of the phase levels, since larger or taller phase

levels due to the larger integer are easier to fabricate, while maintaining a substantially flat wavefront of the incident light.

8. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. in view of Yoo et al. in view of Jeong, further in view of Komma et al., US Patent 5,111,448.

Tanaka et al. in view of Yoo et al. in view of Jeong teaches the device of claim 8, but fails to teach the further limitations of claims 14 and 15.

Regarding claim 14, Komma et al. teaches the optical head device wherein the hologram and the objective lens are fixed as a single unit (element 1 of figure 10 as given in column 4, lines 42-44).

Regarding claim 15, Komma et al. teaches the optical head device wherein the hologram is formed integrally with the surface of the objective lens (element 1 of figure 10 as given in column 4, lines 42-44).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of combining the hologram and objective lens as taught by Komma et al. into the system of Tanaka et al. in view of Yoo et al. in view of Jeong. The motivation would be to effect weight reduction (column 3, lines 65-66 of Komma et al.).

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. in view of Yoo et al. in view of Jeong in view of Tanaka et al. in view of Yoo et al. in view of Ashinuma et al.

Regarding claim 17, Tanaka et al. in view of Yoo et al. in view of Jeong in view of Tanaka et al. in view of Yoo et al. teaches the optical head device according to claim 12. Tanaka et al. in view of Yoo et al. in view of Jeong in view of Tanaka et al. in view of Yoo et al. does not but Ashinuma et al. teaches an optical information device (figure 11) comprising: an optical head device (31); a motor (41) for rotating an optical disk; and an electric circuit (50) for receiving signals obtained from the optical head device, and based on the signals, for controlling and driving the motor and the objective lens and the laser light sources of the optical head device (column 7, lines 42-48), wherein different types of optical disks are distinguished between (column 8, lines 15-17), and the collimating lens is moved toward the second light source in the case of optical disks whose substrate thickness is 0.6 mm (column 8, line 18-27 explains how the optical head, including the collimating lens, is moved based upon detection of the type of disk). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of the given device used to control the motor and convert data as taught by Ashinuma et al. into the system of Tanaka et al. in view of Yoo et al. in view of Jeong in view of Tanaka et al. in view of Yoo et al. The motivation would be to provide an optical information recording/ reproducing apparatus which can stably record, reproduce, and erase information for different sizes of recording media (column 2, lines 62-64 of Ashinuma et al.).

10. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. in view of Yoo et al. in view of Jeong in view of Hagimori.

Tanaka et al. in view of Yoo et al. in view of Jeong teaches the optical head device according to claim 23, but fails to teach the further limitations of claim 24. Hagimori teaches from column 9, line 53 to column 10, line 10 the device wherein the relay lens (Gr1) adds spherical aberration at its outer circumference portion away from the optical axis (causes “over-side spherical aberration” as given in column 10, line 1), and due to the spherical aberration, corrects off-axial aberration (column 9, line 64). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of correcting off-axial aberration using a lens that introduces spherical aberration as taught by Hagimori into the system of Tanaka et al. in view of Yoo et al. in view of Jeong. The motivation would be to realize a zoom lens system that offers satisfactory aberration correction performance despite being compact (column 10, lines 8-10 of Hagimori).

11. Claims 25 and 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. in view of Yoo et al. in view of Jeong in view of Ashinuma et al.

Tanaka et al. in view of Yoo et al. in view of Jeong teaches the limitations of claim 23, but fails to teach the further limitations of claims 25 and 30-35.

Regarding claim 25, Ashinuma et al. teaches in figure 11 the optical head device according to claim 1, wherein a distance between the relay lens (39) and a point of convergence on a side opposite a point of emission of the infrared light beam (towards element 40) is shorter than a distance between the relay lens (39) and the point of emission (from element 31) of the infrared light beam.

Regarding claim 30, Ashinuma et al. teaches an optical information device (figure 11) comprising: an optical head device (31); a motor (41) for rotating an optical disk; and an electric circuit (50) for receiving signals obtained from the optical head device, and based on the signals, for controlling and driving the motor and the objective lens and the laser light sources of the optical head device (column 7, lines 42-48).

Regarding claim 31, Ashinuma et al. teaches a computer comprising: an optical information device (figure 11); an input device or an input element (element 2 of figure 1) for inputting information (done through insertion of disk); a computing device for carrying out computing based on information input from the input device (reading disk) or information reproduced from the optical information device; and an output device or an output element for displaying or outputting information input from the input device, information reproduced from the optical information device (recording disk), or the results of the computation performed by the computing device.

Regarding claims 32, 33, and 34, Ashinuma et al. teaches an optical disk player (disk reader is the same as an “optical information reproducing apparatus” as given in column 7, line 2), a car navigation system (“optical information recording/reproducing apparatus” as given in column 7, line 2 can be used for any purpose), and an optical disk recorder (disk recorder is the same as an “optical information recording apparatus” as given in column 7, line 2) comprising: an optical information device (figure 11), and a decoder (44) for converting into an image information signals obtained from the optical information device from information to be converted into an image (“photo signal” of column 7, lines 15-16); wherein the optical information device is the optical information

device where the optical disk recorder comprises an encoder (45) for converting into information image information from an image to be converted into information to be recorded by the optical information device (electrical signal of device 40).

Regarding claim 35, Ashinuma et al. teaches an optical disk server comprising: an optical information device (figure 11), and an input/output element for exchanging information with the outside (signals sent from device to rest of apparatus).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of the given device used to control the motor and convert data as taught by Ashinuma et al. into the system of Tanaka et al. in view of Yoo et al. in view of Jeong. The motivation would be to provide an optical information recording/ reproducing apparatus which can stably record, reproduce, and erase information for different sizes of recording media (column 2, lines 62-64 of Ashinuma et al.).

12. Claim 28 is rejected under 35 U.S.C. 102(b) as being unpatentable over Tanaka et al. in view of Yoo et al. in view of Jeong in view of Tanaka et al. in view of Yoo et al. in view of Umeda et al.

Regarding claim 28, Tanaka et al. in view of Yoo et al. in view of Jeong in view of Tanaka et al. in view of Yoo et al. teaches the optical head device according to claim 27. Tanaka et al. in view of Yoo et al. in view of Jeong in view of Tanaka et al. in view of Yoo et al. does not but Umeda et al. teaches the device wherein a thickness of the parallel flat plate ("dichroic mirror" of column 16, lines 10-12) is 1 mm or less. It would have been obvious to one of ordinary skill in the art at the time of the invention to

include the concept of a thin dichroic mirror as taught by Umeda et al. into the system of Tanaka et al. in view of Yoo et al. in view of Jeong in view of Tanaka et al. in view of Yoo et al.. Umeda et al. teaches in column 16, lines 10-12 that dichroic mirrors of this dimension are conventional, most likely because they are so expensive.

Allowable Subject Matter

13. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record taken alone, or in combination, teaches the different convex lens effects based on the substrate of the disk. The closest prior art of record, Jeong teaches a different refractive index based on the wavelength of light, but teaches that the refractive indices must be kept the same, not greater or less than each other.

Response to Arguments

14. Applicant's arguments filed 12/28/07 have been fully considered but they are not persuasive. Applicant contends that Tanaka et al. does not teach a beam converging and then diverging before hitting an objective lens. This feature was not previously claimed and has now been rejected accordingly above.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARUL GUPTA whose telephone number is (571)272-5260. The examiner can normally be reached on Monday through Thursday, from 9:30 AM to 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joe Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHG
2/29/08

/Joseph H. Feild/
Supervisory Patent Examiner, Art Unit 2617